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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,676	02/01/2001	January Kister	PRO-128	3474

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EXAMINER

TERESINSKI, JOHN

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 03/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/775,676

Applicant(s)

KISTER ET AL.

Examiner

John Teresinski

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Claim Objections

Claim 12 is objected to because of the following informalities: Claim 12 references the method of claim 5, it has been interpreted to reference the only method claim in the application, claim 11 for the purpose of examination. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-2, 5 & 9-11 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent No. 6,218,848 to Hembree et al.. Hembree et al. discloses a probe card for testing semiconductor wafers including four source leads to measure the resistivity of contacts (see column 2 lines 42-44, 62-66). Regarding claim 2, Hembree et al. discloses a resistivity measuring circuit that evaluates path resistance of contacts (column 2 lines 53-56) and adjusts test signal voltages accordingly (column 3 lines 6-7). Regarding claim 5, Hembree discloses the utilization of buckle beam probes included in probe cards for testing (column 1 line 44). Regarding claim 9, Hembree et al. discloses a means for aligning the test site and the tips of the probe contacts included in the testing device (column 3 lines 23-26). Regarding claim 10,

Art Unit: 2858

Hembree et al. includes an embodiment of the probe contacts with essentially spherical shape (column 7 line 11 & Figure 5A). Regarding claim 11, Hembree et al. discloses a test method that includes placing the probe card contacts in communication with the test site, evaluating the contact resistances and compensating test signals in accordance with path resistance (column 8 lines 48-54, 56-59).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,218,848 to Hembree et al. in view of U.S. Patent No. 5,136,252 to Witt.

Hembree teaches the use of four contacts to measure path resistances of contacts and circuitry capable of compensating voltage drop (column 2 lines 54-56, 62-64). Hembree does not teach the use of three contact probes. Witt teaches, only three probes are necessary instead of four in the evaluation of resistive bodies (column 11 line 64). It would be obvious to one of ordinary skill in the art to incorporate into Hembree et al. the use of three probes as a modification taught by the Witt reference (column 12 lines 11-27) for the purpose of obtaining a resultant signal that is more sensitive than could be obtained by the four probe technique (column 3 lines 5-16).

Art Unit: 2858

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,218,848 to Hembree et al. in view of U.S. Patent No. 6,218,846 to Ludwig et al..

Hembree et al. teaches the use of four contacts in measuring the resistivity of contacts and electrical circuitry for adjusting input signals due to the measured resistance (column 2 lines 54-56, column 3 line 7). Hembree does not teach the 4 Wire Ohm's Measurement technique. Ludwig et al. teaches resistance measurement using a four point technique according to Ohm's Law (column 1 lines 46-50, 55-57). It would be obvious to one of ordinary skill in the art improve the Hembree et al. reference with the four point Ohm's technique measurement taught by Ludwig for the purpose of testing contact resistance.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,218,848 to Hembree et al. in view of U.S. Patent No. 6,051,982 to Alcoe et al.

Hembree et al. teaches several embodiments of probe contacts attached to a probe card (column 3 line 9) with multiple leads per contact site (column 2 line 62-66). Hembree et al does not teach a bundled probe group in a single perforation of a sheath, a single perforation that is a long hole, or a single perforation in the shape of a circular hole. Alcoe teaches bundled probes in a single perforation (figure 1), a long hole (figure 23) and a circular opening (column 6 line 16 & 35). It would be obvious to one skilled in the art to incorporate a perforation for the bundled probes, a long hole or a circular opening taught by Alcoe et al. into Hembree et al. because, in order for the probe to contact a terminal, it would require a perforation in the probe sheathing, a hole in the sheathing to protrude from and a circular opening to accommodate spherical probe tips.

Conclusion

Art Unit: 2858

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to clips and bookmarks in general:

U.S. Patent No. 6,320,403 to Shabde teaches a four point probe technique to measure sheet resistance.

U.S. Patent No. 6,275,052 to Hembree et al. teaches a method for testing wafers.

U.S. Patent No. 6,263,294 to Frederickson teaches an impedance spectroscopy measurement system which provides input signals and measures resistance.

U.S. Patent No. 6,218,846 to Ludwig et al. teaches an impedance measurement probe array using three or four probes.

U.S. Patent No. 6,218,848 to Hembree et al. teaches a probe card for measuring resistivity of contacts using a four point structure.

U.S. Patent No. 6,181,144 to Hembree et al. teaches a probe card for testing wafers using a four point Kelvin structure.

U.S. Patent No. 6,051,982 to Alcoe et al. a test apparatus with at least one probe and bundled probes in a sheath.

U.S. Patent No. 5,999,002 to Fasnacht et al. teaches a contact resistance check circuit.

U.S. Patent No. 5,491,424 to Asar et al. teaches a test fixture with resistance measurement circuitry.

U.S. Patent No. 5,136,252 to Witt teaches the measurement of resistances using a four point probe.

Art Unit: 2858

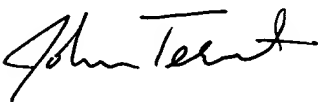
U.S. Patent No.4,565,966 to Burr teaches a method for testing circuit boards using a small number of probes.

U.S. Patent No.4,027,935 to Byrnes et al. teaches the use of buckling beam probes in high frequency applications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (703) 305-4746. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (703) 308-0750. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872 9319 for regular communications and (703) 872 9318 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



JT
March 15, 2002



N. Le
Supervisory Patent Examiner
Technology Center 2800